

Title (en)

Premixing fuel injector with improved secondary fuel-air injection

Title (de)

Vormischende Brennstoffeinspritzvorrichtung mit sekundärer Brennstoff-Luft-Einspritzung

Title (fr)

Injecteur de combustible à prémélange avec une injection secondaire de combustible-air

Publication

EP 0964204 A3 20000119 (EN)

Application

EP 99304452 A 19990608

Priority

US 9337198 A 19980608

Abstract (en)

[origin: EP0964204A2] A premixing, tangential entry fuel injector (10) for a gas turbine engine features a secondary fuel-air injection insert (40) positively secured to a centerbody shell (38) by a braze joint (98). A secondary fuel supply tube (42), positively secured to both a centerbody base (36) and to the insert (40), is curved in at least two dimensions. In an exemplary embodiment, the tube is coiled into a spiral shape covering a single 360 DEG cycle. During engine operation, the centerbody expands axially in response to elevated temperatures in the engine's interior, causing the insert (40) to be displaced away from the base (36). The curvature of the tube allows the tube (42) to flex slightly to accommodate the displacement. Ideally the curvature of the tube is such that the tube's natural frequency is well above the maximum vibratory frequency that the tube will experience during engine operation. <IMAGE>

IPC 1-7

F23D 17/00; **F23D 14/02**; **F23D 14/22**

IPC 8 full level

F23C 7/00 (2006.01); **F23D 14/02** (2006.01); **F23D 14/22** (2006.01); **F23R 3/28** (2006.01); **F23R 3/30** (2006.01)

CPC (source: EP US)

F23C 7/002 (2013.01 - EP US); **F23D 14/02** (2013.01 - EP US); **F23D 14/22** (2013.01 - EP US); **F23C 2900/07002** (2013.01 - EP US); **F23D 2206/10** (2013.01 - EP US); **F23D 2211/00** (2013.01 - EP US)

Citation (search report)

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- [A] WO 9734108 A1 19970918 - PARKER HANNIFIN CORP [US], et al
- [A] US 5105621 A 19920421 - SIMMONS HAROLD C [US], et al
- [X] US 5735466 A 19980407 - KRAMER STEPHEN K [US], et al

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)

EP 0964204 A2 19991215; **EP 0964204 A3 20000119**; CA 2274563 A1 19991208; CN 1239766 A 19991229; JP 2000028141 A 20000125; JP 4164195 B2 20081008; US 6098407 A 20000808

DOCDB simple family (application)

EP 99304452 A 19990608; CA 2274563 A 19990607; CN 99108319 A 19990608; JP 16034799 A 19990608; US 9337198 A 19980608